Polarization and Conflict: Theoretical and Empirical Issues

Joan Esteban[1]

Gerald Schneider[2]

[1] Institut d´Anàlisi Económica, CSIC, Campus UAB, 08193 Bellaterra, Spain, Phone: +34 93 580 6612; Fax: +34 93 580 1452; E-mail: joan.esteban@uab.es

[2] University of Konstanz, Department of Politics and Management, Box D 86, 78457 Konstanz, Germany, Phone: +49-7531-88-2608/3081, Fax: +49-7531-88-2774, Email: Gerald.Schneider@uni-konstanz.de

Summary

Recent formal and statistical research in political science and economics strongly indicates that various forms of political and social polarization increase the likelihood of violent conflict within and between nation states. The papers collected for this issue explore this crucial relationship and provide answers to a variety of topics: First, contributors systematically examine the association of "polarization" with armed conflict. Second, the papers show how the alienation between competing groups along different social and political cleavages affects the likelihood of violence. Third, some papers address how institutions and other contingent factors mediate the conflict potential in polarized societies. Fourth and finally, this special issue compares the explanatory power of income polarization with traditional and new measures of inequality.

Introduction

Recent developments around the world have shown that the ideological, economic or religious polarization between contending groups is a major source of conflict and hence one of the key impediments to social and political progress. Commenting on the 2004 Presidential elections in the United States, New York Times columnist Brooks (2004) heralded a new era of "political segregation" and wrote: "People lose touch with others in opposing, now distant, camps. And millions of kids are raised in what amount to political ghettoes." The contested Presidential elections in Ukraine instigated half a year later the fear of "further splits and the polarisation of the country," as the BBC observed (Lukov 2004), and the diplomatic correspondent of the Guardian warned two years after the attack on the World Trade Center that the al-Qaida terrorist network had already reached one of its main goals: "…the one-sided nature of the conflict [between Israel and the Palestinians] and the emotions it arouses beyond its boundaries have helped Bin Laden achieve the fourth and most important of his objectives: polarisation" (MacAskill 2003).

The process of increasing social and political polarization seems to go hand in hand with economic polarization. In the presentation of the 1996 World Bank Human Development Report, James Gustave Speth expressed the view that "Unfortunately, we live in a world that has in fact become more polarized economically, both between countries and within them. If current trends continue, if they are not quickly corrected, economic disparities will move from inequitable to inhuman -- from unacceptable to intolerable[gs1]."

According to a recent definition, polarization results from the interaction of within-group identity and across-group alienation (Esteban and Ray 1994). While the group members show identification with each other in a polarized society, they feel socially or ideologically separated from the members of other groups. At a theoretical level the work of Esteban and Ray (1999) shows that the level of conflict increases with the level of polarization. If there are

4

two groups, the intensity of conflict is most pronounced with a bimodal distribution of the population over opposing goals.

As it is well known, this conjecture has a distinguished idea history. Marx (1931 [1867]) and De Tocqueville (1857) contended that a revolution or, alternatively, a breakdown of the *Ancien regime* become more likely if the workers start to organize themselves politically and if their economic situation does not improve in line with the welfare of capitalists. Ample illustrative evidence seems to support this hypothesis. The polarization between contending social forces is seen as a key cause of the end of the Weimar republic (Bracher 1955, Winkler 1994), the Russian revolution (Rosenberg and Koenker 1987), and many other decisive breakdowns of political order (Linz 1978).

Interestingly, modern conflict research has only recently started to pay attention to the effects of a growing ideological, social or economic distance between contending social forces. One reason for the hesitance of social scientists to systematically explore the nexus between polarization and violent forms of conflict might be the disrepute that some disciples of Marx have shed over the related concept of alienation. A further hindrance is that the track record of concepts that are most closely related to polarization – fractionalization and inequality - as predictors of violent conflict is rather mixed. Lichbach (1989) showed in an early survey article that the empirical studies on the relationship between inequality and conflict have only come up with inconclusive results. Furthermore, recent empirical work (Montalvo and Reynal-Querol, 2002, 2005) provides evidence suggesting that polarization outperforms fractionalization as a predictor of civil conflict.

In any case, there seems to be agreement that groups rather than individuals are the decisive actors ~~of~~in ~~-~~large-scale violent conflicts. Recent formal and empirical contributions to the literature on armed violence ~~on violent conflict~~ have converged so much ~~coincides in~~ putting groups at the centre stage of their analyses~~[see a summary below]~~. However, there is

divergence as to the role played by groups. One line emphasizes diversity and social fragmentation into groups and uses indices of fractionalization as an indicator for potential conflict. The second approach considers that the existence of few and large sized groups with opposing interests is more conducive to conflict than many, smaller sized groups. The polarization in of the distribution of the population is the key variable for this approach. Which of the two scenarios is more likely to ignite conflict is a theoretical and empirical open question.

This special issue tries to settle some of the disputes that have occurred over the role that various forms of polarization play in conflict, both at the international and the domestic level. To this end we discuss the extant literature that analyzes the impact of polarization on the likelihood of civil and interstate war. We finish by summarizing the key insights of the articles that have been contributed to this special issue around three sets of issues: i) what is the relationship between polarization and conflict; ii) the role of income and group attachment in explaining group formation and performance; and iii) the mediating role of institutions in a polarized society.

Measuring Social Cleavages: fractionalization vs polarization

Polarization is one of these social scientific ideas for which most social scientists believe to have an implicit understanding. As it is often the case, the precipitant acceptance of the seemingly obvious has, however, contributed to a considerable carelessness in the application of this concept. In recently published work, polarization is for instance equated with income inequality (Keefer and Knack 2002), the range of political positions taken by party supporters (Layman and Carsey 2002), the electoral strength of post-communist parties in transition countries (Frye 2002), and highly aggregated index measures including information on income, ethno-linguistig fractionalization and institutional quality (Woo 2005). Given the

overstretch of "polarization" as a social scientific concept, it seems mandatory to define clearly what we understand here under this notion.

Starting with the works of Esteban and Ray (1994) –see also Duclos, Esteban and Ray (2004)— and Wolfson (1994), we have now a set of rigorously founded measures of polarization. Wang and Tsui (2000), Reynal-Querol (2001, 2002), and Zhang and Kanbur (2001) have developed and tested alternative measures of polarization.[1] Most of them are used in the papers that are part of ~~we contribute to this~~ this special issue. Generally speaking, polarization stands for the idea that the tensions within a society of individuals or states result from two simultaneous decisions: identification with other subjects within the own group of reference and distancing oneself from one or several other competing groups. Consequently, following Esteban and Ray (1994), any measure of polarization has to possess the following basic traits:

1. Polarization is a systemic attribute and mainly considers ~~It is a matter of~~ groups as the crucial actors. Isolated individuals should therefore have little weight in the calculation of social polarization; ~~,~~

2. The level of polarization increases with ~~There must be a high~~ the degree of homogeneity within each group; ~~,~~

3. There must be a high degree of heterogeneity across groups, and

4. The~~re must be a small~~ number of significantly sized groups must be relatively small. All the polarization measures cited above do satisfy these four properties, while alternative measures are not based on all of these conditions. ~~.~~

It is plain in this respect that the notion of polarization is nearly orthogonal to the frequently used notion of "fractionalization" –or of "power concentration"— which is the complement of the well-known Hirschman-Herfindahl measure of concentration. The

---

[1] An alternative and – considerably cruder - specification of polarization which also does not include a proxy for intra-group homogeneity in the absence of information is the concept of dominance that Collier (2001) introduced. It qualifies societies as "dominated" if the largest group contains between 45 and 90% of the overall population.

measure of fractionalization can be understood as the probability the two randomly chosen individuals happen to be of different groups.

The measures of fractionalization and of polarization differ on two major counts. In the first place, while larger number of groups increases fractionalization it decreases polarization –with a maximum level of polarization for two equally sized groups. Secondly, most measures of polarization –but not ~~in~~ Reynal-Querol's (2001, 2002) indicator — consider ~~give a role to~~ inter-group distances to be crucial, while ~~the measure of~~ fractionalization measures do~~es~~ not include this information.

~~The divergence between the two notions is as it should be, a~~As polarization and fractionalization~~they~~ try to capture different aspects of the distribution of the population over a set of characteristics, we should expect these divergences. The key point that we wish to examine here is whether fragmented or bi-polar distributions are more likely to generate social conflict. This question can be addressed theoretically and empirically.

Theoretical and Empirical Work on Polarization and Conflict

The hypothesis that conflict is related to social, economic and political polarization has preoccupied political science, economics and the other social sciences since decades. In economics, the literature on this topic grows out of the literature on rent-seeking games. Political scientists have, by contrast, looked at polarization initially in the context of theories that proposed a link between the global power distribution and militarized forms of conflict. We discuss the theoretical contributions that have been made so far before we move to a presentation of the key empirical results.

Theoretical work

The most general model on the nexus between the distribution of the population over groups with opposing interests and conflict is due to Esteban and Ray (1999). They conceive, in the tradition of the rent-seeking literature, of conflict as the losses competing groups incur onto each other to reach their preferred option. A society of individuals or states reaches, under the fairly general assumption of this model, the maximal amount of conflict when the population is distributed into two equally sized groups. In contrast, a highly fractionalized society would be associated with a low level of equilibrium conflict. Hence, bimodal power distributions should indeed be associated with the highest levels of military spending. Whether bipolarity is also linked to the highest risk of violent forms of conflict is an open theoretical (see Ponsatí, this issue) *and* empirical question.

Quite independently, the international relations literature has since a long time witnessed a controversy over the stabilizing or destabilizing effects of "polarity". Balance of power theorists have argued since centuries that even distributions of power across the major powers are pacifying the international system (Morgenthau 1973). In their perspective, power parity provides a balance of threat. Some realists even contend that one specific distribution of resources – bipolarity - stabilizes the international system (Waltz 1964, 1979). Waltz (1964, 1979) contends that bipolarity is the ultimate force of peace because decision makers are better able to judge the preferences of a potential foe. ~~ and~~ Deutsch and Singer (1964), by contrast, advanced the position that a "multipolar" system is to be associated with more uncertainty and that it is consequently more stable than a bipolar one. ~~This conjecture is in considerable contrast to the precepts that can be derived from the power preponderance school of thought. They believe in the pacifying effects of unipolarity and thus the possibility to deter leadership challenges early on (Organski 1968).~~ The empirical literature that deals with this controversy between the proponents of bipolarity and multipolarity has, however, not come to

clear results. As Geller and Singer (1998:113) write, "…confusion rather than clarity has characterized the debate".

The crisis bargaining literature has, however, clarified the discussion between balance of power and parity theorists to a considerable extent. The pathbreaking synthesis of this controversy by Powell (1999) shows through the distinction between the disparity of power and benefits that both theories have to be adapted. The risk of conflict is in the bilateral bargaining model of Powell minimal in two instances: first, if there is a preponderance of power and benefits favouring one major power and, second, in the event of parity on both dimensions. One important distinction that has to be made is between how costly would be a conflict would be if it erupts at all and how likely it is that one party or country decides to violate the existing agreements and trigger a costly conflict in the first place. The costlier a conflict is, the more unlikely will be that any party might decide to break the existing status quo – the higher the expected gains. Hence, bipolar situations, as they create a huge cost in case of open conflict, easily sustain status quo agreements. Notice however that this argument assumes that all the parties have common information concerning the expected costs in case of conflict. With full and common information there appears to be no reason why the parties with opposing conflict could not find an individually rational peaceful agreement. This means on the other hand that convincing explanations have to attribute conflict at least to some extent to strategic uncertainty. It is, therefore, not surprising that One of the key points in Powell's (1999) contribution is to puts asymmetric information at the center stage of his theoretical synthesisthe analysis.

Another traditional and competing hypothesis in the international relations literature relates peace to the existence of one powerful state. The power preponderance school of thought believes, accordingly, in the pacifying effects of unipolarity and thus the possibility to deter leadership challenges early on (Organski 1968). In a temporal perspective, the question

is important whether the risk of conflict is greatest before or after parity levels have been reached. Kadera´s (2001:105) computational models of dyadic conflict address this issue and support the view that "a pair of rival nations is most conflictual immediately following a power transition". How these results translate into a multilateral setting where states can also ally to deter threats remains, however, unclear.

From a universalist perspective, the mechanics that drive a system of states into war should be identical to those that increase the risk of violence among competing groups. Unfortunately, there is a substantial gap between theoretical and empirical progress in the study of civil war. In his model of civil war duration, Fearon (2004) only addresses the issue of power distribution in passing and refers to the burgeoning literature on war as a bargaining process. As Ponsati (this issue) shows, both a polarization of resources and beliefs increases the risk of conflict onset and prolongs its duration. We believe, however, that much more theoretical works needs to be developed that offers convincing explanations for the usage of armed force across different political and social systems in which political groups can rely on varying commitment devices and mobilization strategies.

Empirical studies

The Eempirical literature on rent seeking contests is sparse and mainly experimental (e.g. Potters et al. 1998). If one disregards the early studies on groupthink and the polarization of beliefs in decision making committees, no widely cited experiment on the relationship between polarity and the usage of violence exists. Quasi-experimental evidence that links some operational definition of polarization to armed conflict has consequently mainly been gathered in political science.

Reflecting the development within the field of quantitative international relations, the first studies tested the relationship between the allocation of resources across major powers and the occurrence of war in the Westphalian state system. As indicated, no clear relationship between "polarity" as well as "polarization" and international war could be found. The ambiguity of the extant empirical work might be largely a consequence of the crude way in which the key concept of polarity is often operationalized. Simply counting the number of poles misses to include information on the heterogeneity of the contending alliances.

The variable that most closely resembles polarization as understood by Duclos, Esteban and Ray (2004)[2] is "capability concentration" that Singer, Bremer and Stuckey (1972) and Ray and Singer (1973) have introduced to the literature. They find that the concentration of power within the state system only marginally affects the likelihood of conflict. Replications of the Singer, Bremer and Stuckey (1972) study have largely come up with further qualifications or non-significant results (e.g. Mansfield 1994, Schneider and Ruoff 2006). To gauge the impact of alliance cohesion on the likelihood of war, Bueno de Mequita (1975, 1978) has introduced the measure of tightness of the alliance system. This variable stands for the similarity of alliance portfolio choices and is measured through the calculation of the Tau_b scores to identify how nation states cluster into blocs or poles. His empirical applications of this measure of alliance tightness remain, however, insignificant (Bueno de Mesquita 1978, Bueno de Mesquita and Lalman 1988).[1] Wayman´s (1984) statistical study addresses the ambiguity of the concept of bipolarity in a similar way like Bueno de Mesquita´s work. He shows particularly that bipolar power structures reduce the magnitude of war, while bipolar alliance structures increase the risk of militarized conflict.

In the study of civil war, the first studies on the impact of societal divisions on the risk of conflict have referred to fractionalization as a proxy for the cleavage structure within a

---

[2] A systematic empirical test of the Esteban and Ray (1994) and Duclos, Esteban and Ray (2004) measures is still lacking. However, some preliminary study show that they are meaningfully related to other indicators of social conflict such as government survival (Jozwiak and Schneider 2005).

country. Although the study by Hegre et al. (2001) on the civil democratic peace has come up with a positive effect of this indicator on the risk of conflict, subsequent examinations have qualified this result. Drawing on empirical studies on the impact of polarization on economic growth, Reynal-Querol (2002) pointed out the importance of religious polarization. Collier and Hoeffler (2004) showed that the contested dominance of one large group rather than fractionalization increases the probability of civil war. This is, in their view, due to the fact fractionalization reduces the possibility of marginal groups to organise themselves effectively. In the meantime, new measures have emerged that allow researchers to develop much better measures of ethnic fractionalization (Alesina et al. 2003, Fearon 2003).

Special Issue Articles

The articles published in this issue can be viewed as providing answers to three sets of issues with a conceptual and empirical content: i) what is the relationship between polarization and conflict; ii) income and group attachment in explaining group formation and performance; and iii) the mediating role of institutions in a polarized society.

The first question is eminently[gs2] empirical: is polarization a good predictor for the occurrence and the intensity of conflict? Håvard Hegre uses two forms of polarization – the world-wide distribution of income and political ideology – to analyze the claims made by several authors that polarization affects the conflict propensity at the system level of analysis. His analysis complements the traditional studies that have exclusively looked at the global distribution of capabilities to bolster their theoretical claims. As it is with most system-level analyses, the results of this application are, however, rather inconclusive. This calls for a

reconsideration in the way in which we test system-level explanations and additional tests that take power and preference configurations into account.

One can measure the intensity of conflict by the strength of its economic consequences. Guidolin and La Ferrara explore how polarization affects the economic consequences of conflict. The methodological innovation of their paper is the usage of the event study approach. It is conceivable that investors perceive a conflict in a polarized society as more long-lasting or more severe than one in a less polarized environment, so that their reaction would be stronger. However, it is also possible that markets anticipate more easily the likelihood of a conflict in a more polarized setting, and prices incorporate this expectation well before the onset of a conflict. The analysis by Guidolin and La Ferrara shows that rather the former than the latter hypothesis seems to hold. According to their results, markets do make a difference at the average between conflicts in more or less polarized societies once the violence has set in.

Montalvo and Reynal-Querol similarly analyze how different measures of ethnic and religious diversity are able to explain the duration of different types of civil conflict. Using data on civil war from PRIO, her results suggest that ethnically polarized societies experience longer militarized disputes than ethnically more homogeneous countries. This result complements earlier findings by the author and others showing that polarization increases the risk of civil war.

The last contribution to this set is Ponsati's paper, which can be seen as the formal counterpart of the latter work by Montalvo and Reynal-Querol. She models conflict as a potential temporary outcome in the bargaining process of settling a dispute and shows how a war evolves as a consequence of conflicting claims based on asymmetric beliefs on capabilities. Her formal analysis particularly examines how polarization affects the length of combat, but also offers a general framework for analyzing militarized conflict as a negotiation

process. Her analysis shows in a bilateral situation that the impact of bipolarity on conflict prolongs a conflict, as the empirical analysis of Montalvo and Reynal-Querol suggests.

The second set of papers issues concernsdeals with the nature of groups. What is the process leading to social segmentation? How group allegiance and material interests interact in the determination of collective action?

Buskens, Corten and Weesie use dynamic versions of network analysis to show the conditions under which segregation occurs and polarized communities emerge. Such patterns are likely because cooperation is also costly in pure coordination games.

Esteban and Ray and Østby focus on the multidimensional nature of conflict: eEconomic, and ethnic and other considerations can together motivate groups to engage into armed violence. What is especially important is how different motives overlap.

Gudrun Østby compares in her article measures of inequality and polarization and takes issue with the finding of some quantitative studies that inequality does not increase the risk of internal armed conflict. She argues that these studies fail to account for horizontal inequalities and thus the concurrence of systematic inequalities with ethnic cleavages. She uses data from the Demographic and Health Surveys (DHS) for 33 developing countries for her empirical tests and shows that social horizontal inequality is positively related to conflict outbreak. She also finds that the related concept of polarization increases the risk of conflict.

The contribution by Esteban and Ray consists of a model of conflict in which individuals differ in the radicalism of the allegiance to their ethnic group and in wealth. They examine the effect on the intensity of conflict of across-groups and within-group heterogeneity in wealth and in ethnic sentiments. Making one group uniformly richer than the other might lead to a moderation in the degree of conflict; while increasing within-group wealth inequality may, in return, increase the aggressiveness of this group and the equilibrium conflict intensity.

The third set of issues focuses on how social polarization may perturb the role of institutions in channelling the conflict of interests.——

——Political polarization and/or policy fractionalization may negatively affect the potential to enact policy reforms. To explore the relative explanatory value of this hypothesis, Torenvlied and Harhuuis contrast the theory of polarization with veto-player theory. Building on Cox and McCubbins (2001), they distinguish between decisiveness and resoluteness of political systems in enacting reform measures. Using a dataset of 32 case studies of anti-corruption reform issues in seven Sub-Saharan African countries they find empirical support for the veto-player theory. They also obtain that policy fractionalization has significant and negative effects on the level of reform.

Comparative politics has dealt for a long time with the question of the extent to which political institutions are epiphenomena of the cleavage structure. While political sociologists have largely advanced this claim, formal theorists have also argued that institutional arrangements influence the social cohesion within a country. The article by Schneider and Wiesehomeier (this issue) takes up this controversy and examines the extent to which institutions can mediate the conflicts within divided societies. Their analysis shows that ethnic divisions hasve only a significant impact on the conflict potential in democracies. However, fragmented societies are less likely to become democratic in the first place. If the political groups in divided societies are able to overcome the conflict potential, they can reduce the risk of political violence at least to some extent through the adoption of convincing institutions.

Conclusion

One of the main and increasingly accepted conjectures in the social sciences is the hypothesis that increasing polarization increases the risk of conflict, including armed violence. Although balance of power theorists are still influential, the growing available evidence shows that power parity is associated with an increased risk of conflict. Similarly, Esteban and Ray (1999) demonstrate from a political economy perspective that bipolarization of income or preferences maximizes the costs that competing groups incur onto each other. The contributors to this volume examine these related claims systematically and identify some of the conditions under which growing divisions within a society – be it of individuals or of nation states - are indeed linked to the usage of militarized force.

Extensions of this work will examine how polarization induces other anomalies like the breakdown of social and political order, political instability, strikes and other non-violent forms with which one group tries to hurt a competing group. We have strong reasons to believe that polarization also reduces the willingness of humans to contribute to common causes, reducing the provision of public goods and hampering the economic prospects of developing countries.

~~Extensions of this work will examine how polarization induces other anomalies like the breakdown of social and political order, political instability, strikes and other non-violent forms with which one group tries to hurt a competing group. We have strong reasons to believe that polarization also reduces the willingness of humans to contribute to common causes, reducing the provision of public goods and hampering the prospects of ethnically or religiously divided societies.~~ At the moment, most studies use fractionalization to gauge the impact of societal divisions on various public policy outcomes. We believe, however, that not heterogeneity per se, but rather polarization between competing groups is the driving force behind the correlations found in this literature so far.

Practically and academically, the papers assembled in this special issue will help to sort out which dysfunctional effects social and political divisions have and whether some forms of group competition are beneficial to a society. Doing so, polarization researchers will help to clarify the causes and consequences of related concepts such as inequality, fractionalization and concentration. The research summarized in this special issue will alert us to the wider dangers of political polarization. Although most commentators believe that increased divisions within a society endangers democracy and undermines social progress, we have only started to understand these processes and their impact upon society.

References

Abadie, Alberto and Javier Gardeazabal (2003) "The Economic Costs of Conflict: A Case Study of the Basque Country", *American Economic Review* 93 (1): 113-32.

Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat and Romain Wacziarg 2003. 'Fractionalization', *Journal of Economic Growth* 8: 155-94.

Alesina, Alberto and Eliana La Ferrara. 2003. 'Ethnic Diversity and Economic Performance', *NBER Working Paper* 10313

Bracher, Karl Dietrich. 1955. *Die Auflösung der Weimarer Republik. Eine Studie zum Problem des Machtverfalls in der Demokratie*. Stuttgart, Düsseldorf: Ring Verlag.

Bueno de Mesquita, Bruce 1975. „Measuring Systemic Polarity". *Journal of Conflict Resolution* 19/2:187-216.

Bueno de Mesquita, Bruce 1978. "Systemic Polarization and the Occurrence and Duration of War." *Journal of Conflict Resolution* 22/2: 241-267.

Bueno, de Mesquia, Bruce and David Lalman. 1988. "Empirical Support for Systemic and Dyadic Explanations of International Conflict". *World Politics* 41/1:1-20.

Brooks, David. 2004. 'Age of Political Segregation', *The New York Times*, 29 June 2004.

Collier, Paul and Anke Hoeffler. 2004. 'Greed and Grievance in Civil War', *Oxford Economic Papers* 56: 563-95.

Cox, Gary W. and Matthew D. McCubbins (2001) "The Institutional Determinants of Economic Policy Outcomes", in *Presidents, Parliaments, and Policy*, Steve Haggard and M. D. McCubbins eds. Cambridge: Cambridge University Press, pp. 21-63

De Tocqueville, Alexis. 1857. *L'ancien régime et la Révolution*. Paris: Lévy, 3rd edition.

Deutsch, Karl Wolfgang and J. David Singer. 1964, 'Multipolar Power Systems and International Stability', *World Politics* 16: 390-406.

Duclos, Jean Yves, Joan Esteban and Debraj Ray. 2004. 'Polarization: Concepts, Measurement, Estimation', *Econometrica* 72: 1737-72.

Esteban, Joan and Debraj Ray. 1994. 'On the measurement of polarization', *Econometrica* 62: 819-51.

Esteban, Joan and Debraj Ray. 1999. 'Conflict and Distribution', *Journal of Economic Theory* 87: 379-415.

Esteban, Joan and Debraj Ray. 2001. "Social Rules are not Immune to Conflict", *Economics of Governance* 2001 (2): 59-67.

Fearon, James D. 2003. 'Ethnic and Cultural Diversity by Country', *Journal of Economic Growth* 8: 195-222.

Frye, Timothy. 2002. 'The Perils of Polarization: Economic Performance in the Postcommunist World', *World Politics* 54: 308-37.

Guidolin, Massimo and Eliana La Ferrara (2004) "Diamonds are Forever, Wars are Not. Is War Bad for Private Firms?" Working paper.

Hardin, Russell (1995) *One for all*. Princeton: Princeton University Press.

Jozwiak, Eva and Gerald Schneider. 2005. "Political Polarization and Government Survial." Mimeo, University of Konstanz.

Kadera, Kelly M. 2001. *The Power-Conflict Story: A Dynamic Model of Interstate Rivalry*. Ann Arbor: University of Michigan Press.

Keefer, Philip and Stephen Knack. 2002. 'Polarization, Politics and Property Rights: Links Between Inequality and Growth', *Public Choice* 111: 127-54.

Layman, Geoffrey C.; Carsey, Thomas M. 2002. "Party Polarization and "Conflict Extension" in the American Electorate." *American Journal of Political Science* 46/4:786-802.

Linz, Juan J. 1978. 'Crisis, Breakdown, and Reequlibration', in Juan J. Linz and Alfred Stepan (eds.) *The Breakdown of Democratic Regimes*. Baltimore and London: Johns Hopkins University Press, pp. 3-124.

Lukov, Yaroslav 2004. "Rival Camps Braced for Ukraine Polls". BBC News World Edition, December 24, 2004. (http://news.bbc.co.uk/2/hi/europe/4123907.stm, last consulted July 5, 2004).

MacAskill, Ewan 2003. "Jihad has worked – the world is now split in two". The Guardian, December 8, 2003.

Mansfield, Edward D. 1994. *Power, Trade, and War*. Princeton: Princeton University Press.

Marx, Karl. 1931 [1867]. *Das Kapital: Kritik der politischen Ökonomie*. Berlin: Laub.

McCarty, Nolan, Keith Poole and Howard Rosenthal. 2004. 'Political Polarization and Income Inequality', unpublished manuscript.

Miguel, Edward, Shanker Satyanath, and Ernest Sergenti. 2004. "Economic Shocks and Civil Conflict: An Instrumental Variables Approach." *Journal of Political Economy* 112:725-753.

Montalvo, Jose G. and Marta Reynal-Querol (2005) "Ethnic polarization, potential conflict and civil wars", *American Economic Review* 95/3:796-816.

Morgenthau, Hans 1973. *Politics among Nations*. 5th ed. New York: Alfred Knopf.

Organski, Abramo Fimo Kenneth 1968. *World Politics*. 2nd ed. New York: Alfred Knopf.

Potters, Jan, Casper G. de Vries, and Frans van Winden 1998. "An experimental examination of rational rent-seeking." *European Journal of Political Economy*, 14, 783-800

Powell, Robert. 1999. *In the Shadow of Power: States and Strategies in International Politics.* Princeton: Princeton University Press.

Reynal-Querol, Marta. 2001. Ethnic and Religious Conflict, Political Systems and Growth. PhD Thesis, LSE, London.

—. 2002. 'Ethnicity, Political Systems, and Civil Wars', *Journal of Conflict Resolution* 46: 29-54.

Robinson, James A. 2001. "Social Identity, Inequality and Conflict." *Economics of Governance* 2/1:85-99.

Rosenberg, William G. and Diane P. Koenker. 1987. 'The Limits of Formal Protest: Worker Activism and Social Plarization in Petrograd and Moscow, March to October, 1917', *American Historical Review* 92: 296-326.

Rosenthal, Howard. 2004. 'Politics, Public Policy, and Inequality: A Look Back at the Twentieth Century', in Kathryn Neckerman (ed.) *Social Inequality*. New York: Russell Sage.

Schneider, Gerald and Nina Wiesehomeier. 2007. „Rules that Matter:

Schneider, Gerald and Gabriele Ruoff 2006. „Quantitative Methoden". In *Handbuch der Internationalen Politik*. Eds. Andreas Wilhelm/Carlo Masala. Wiesbaden: Verlag der Sozialwissenschaften.

Signorino, Curtis. S. and Jeffrey M. Ritter. 1999. "Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions." *International Studies Quarterly*. 43(1):115-144.

Waltz, Kenneth N. 1964. "The Stability of a Bipolar World". *Daeadlus 93:881-909.*

Waltz, Kenneth N. 1979. *Theory of International Politics*. Reading, MA: Addison-Wesley.

Wang, Y.Q. and Tsui, K.Y. (2000), "Polarization Orderings and New Classes of Polarization Indices," *Journal of Public Economic Theory* 2: 349--363.

Wayman, Frank Whelon. 1984. "Bipolarity and War: The Role of Capability Concentration and Alliance Patterns among Major Powers, 1816-1965". Journal of Peace Research 21:61-78.

Winkler, Heinrich August. 1994. *Weimar 1918 - 1933: die Geschichte der ersten deutschen Demokratie*. Frankfurt: Büchergilde Gutenberg.

Wolfson, M.C. (1994), "When Inequalities Diverge", *American Economic Review* P&P 94: 353-358.

Woo, Jaejoon 2005. "Social Polarization, Fiscal Instability and Growth." *European Economic Review* 49:1451-1477.

Zhang, X. and R. Kanbur. 2001. What Difference Do Polarization Measures Make? An Application to China. *Journal of Development Studies* :85—98.

Notes

---

[1] Signorino and Ritter (1999) criticize this measure for not adequately measuring the similarity of alliance portfolios and introduce a more general spatial measure of foreign policy similarity.